

a brown stain like a macula. From ten to fifteen days after, nothing was to be seen or felt, although a sensation of tenderness or pain was still experienced in the part by the patient, *but no abscess resulted at any point.*"

The following are Mr. H.'s practical conclusions:—

1. That certain medicines may be introduced into the cellular tissue beneath the skin with safety and with advantage.
2. That medicines so introduced have a *general* as well as a local effect.
3. That the general effect of medicine so introduced is exceedingly rapid.
4. That this mode of administration is *more certain in its action* than stomachic doses are, for the *exact* amount introduced is known, and the whole of it takes effect, which *may or may not* be the case with stomachic doses.
5. Medicines are *more purely received* into the system by this method than when given by the stomach, in which organ they may become contaminated or decomposed.
6. A given amount of a medicine employed hypodermically has a greater effect than the *same* amount administered by the stomach; *it also acts more quickly.*
7. A given amount of a medicine employed hypodermically has a greater and more rapid effect than when employed *endermically.*
8. That the medicines for which this mode of introduction is especially applicable are the various *narcotics* and *sedatives.*
9. That the *diseases* for which this plan of treatment is especially indicated are for the most part *affections of the nervous system*:—
 - 1stly. Where the immediate and decided effect of a narcotic is required.
 - 2dly. Where narcotics administered by the usual methods fail to do good, and yet are indicated.
 - 3dly. Where the effect of a narcotic is required, and the patient *refuses to swallow.*
 - 4thly. Where, from irritability of the stomach, or other cause (such as idiosyncasy, etc.), the patient cannot take the medicine by the stomach (Case 2).
10. That to produce a general effect, it does not signify whether the remedy be injected into the cellular tissue of the body or of an extremity.
11. That to relieve or cure a local neuralgic affection there is no necessity to localize the injection.
12. That whether the object be to treat a local or general affection, it seems advisable each time to change the site for injection, should it be more than once required."

21. *Chorea Treated by Sulphate of Zinc.*—Dr. Wm. H. STONE, Medical Registrar of St. Thomas's Hospital, states (*Med. Times and Gaz.*, Sept. 17, 1859) that during the year 1858, there were admitted into St. Thomas's Hospital 54 cases of chorea. Out of this number, 50 were put under the influence of three principal remedies. In 16 of these, the treatment mainly comprised the exhibition of sulphate of zinc; in 20, of arsenite of potash; in 14, of ferruginous preparations.

Of the 16 cases treated with sulphate of zinc, five were males and eleven females. The ages of all were intermediate between 8 and 16 years. Previous attacks had occurred in two cases only. Duration of previous illness had been one week in two cases; two weeks in three; three weeks in three; a month in two; two months in two; three months in one; four months in two, and a year in one case. The attacks were without known cause in four instances, from fright in four, from a fall in one, and followed previous illness in five cases. This illness was in one instance of febrile character, probably scarlatina; in another measles, and in three others acute rheumatism; of these latter cases one also suffered from cardiac disease, ultimately terminating in death. Two other cases, though not absolutely complicated with illness, showed evidence of being connected with commencing menstruation in a feeble habit. One case was attacked with varicella soon after admission.

As a general statement few of the above cases were characterized by great severity, and of these one, Case 12, which warrants such a description, was more remarkable for its obstinacy than for the acuteness of the symptoms. Accordingly, the graver disturbances of function are comparatively infrequent. Inter-

ference with articulate speech was only observed in six of the cases; dysphagia, to an extent beyond what would naturally follow from spasmody contortions of the face and hands, only in one case. The rapid and spasmody protrusion of the tongue, to which much attention has been drawn as a symptom of chorea, was observed in five cases. They formed the bulk of those which have already been mentioned for imperfection of speech. The one remaining case had recovered considerably from this latter symptom before admission, and it is probable that, at an earlier period, spasm of the tongue might also have been substantiated. Distinct spinal tenderness was only found in four cases.

Sulphate of zinc was alone exhibited in eight cases. Of these, five were cured. Three were improved, though not cured. It was in all cases administered in increasing doses, beginning with one or two grains. Six grains was the highest dose given in the cases before us, though in others four times this amount has been exhibited with advantage, and without vomiting. The shortest effective administration was of twenty-four days' duration among the cured cases; the longest of fifty-six days. The average period of continuing the medicine was twenty-nine days for all the cases; two of which were removed before its full influence had been produced, and one was interrupted by an attack of varicella. In four cases the sulphate of zinc was followed by ferruginous preparations. One of these, Case 5, complicated by rheumatism and cardiac disease, must be regarded as an exception. In the other three, Cases 1, 12, and 15, the remedy must be considered to have failed, or only to have succeeded partially; they were all ultimately cured under the administration of iron.

In four cases, the zinc was followed by a course of liq. arsenicalis. In three of these, Cases 3, 7, and 11, this effected a cure; but in the other, Case 12, it was equally ineffectual with the zinc, and recovery took place under the iron treatment. In Case 16, on the other hand, the liq. arsenicalis was exhibited for eleven days in doses of mv ter die, without much effect, and recovery took place after the administration of sulphate of zinc for nineteen days in doses of gr. iij ter die. In two cases, 5 and 13, opiates formed part of the treatment. The former of these required their use principally from rheumatic and cardiac complication; in the latter they seem to have had a beneficial effect; inasmuch as recovery took place under their use combined with iron, though the disease had previously resisted both remedies when exhibited singly.

Besides the principal remedy, thirteen cases had the cold or tepid shower-bath during the treatment. Of the three not so treated, one was confined to bed with subacute rheumatism and cardiac symptoms; the second had only recently recovered from an attack of measles; the third had varicella soon after admission. It is not possible to give any separate estimate of the value of this application in bringing about the cure, though it cannot but be ranked very high. It may be omitted as an element of comparison, from its employment in all cases which did not exhibit a distinct counter-indication.

The general statistics are as follows: Of 16 cases treated with sulphate of zinc, 13 went out cured; 3 relieved; but 2 of the latter were in a fair way of recovery, and may probably be set to the credit of the medicament. On the other hand, three of those ultimately cured, owed their improvement partly to ferruginous preparations; and in one case the zinc had no effect whatever. It may, then, be stated generally, that advantage was derived from the zinc in 14 out of 16 cases. The longest stay in the hospital among these cases was 123 days; the shortest 14; the average stay 44.6 days.

Fourteen cases were treated during the same period with preparations of iron; all were cured. The longest stay in hospital was 161 days; the shortest 6 days; average stay 44.2 days.

Twenty cases were treated with liq. potassae arsenitis: 18 cured; 1 relieved; 1 died. The longest stay in hospital was 55 days; the shortest 6; average stay 26.3 days. Average stay in hospital of the 50 cases submitted to three principal remedies, 37.2 days; average stay of all the 54 cases, 35.4 days.

The results of this analysis are somewhat remarkable, as failing to confirm the usual estimate of the value of sulphate of zinc in this disorder. The iron seems to act more certainly, and the arsenic both more certainly and more rapidly than the zinc. The average duration of treatment both with iron and

zinc, 44.2 days and 44.6 days respectively, is very similar, and both are above the general average of the whole number of cases, namely, 35.4 days; whereas, the average stay of the arsenic cases falls as low as 26.3 days. This difference is the more remarkable, as the character of the cases submitted to the arsenical treatment rather exceeded in severity that of the others; and, indeed, the only death recorded belonged to this division.

It remains a question whether the discrepancy between these results and those of some previous well-conducted observations is due to mere accident, or to some real difference in type between cases originating at different times and under dissimilar circumstances.

22. *Iodide of Potassium in Diseases of the Brain in Children.*—Upwards of twenty years since the iodide of potassium was recommended by Roeser and others as a remedy of special power in hydrocephalus. Dr. JOHN COLDSTREAM states (*Ed. Med. Journ.*, Dec., 1859) that his own experience has led him, for a considerable time past, to its employment, almost exclusively, in the treatment of those numerous ailments of children, which we cannot but regard as indicative of a tendency to hydrocephalus. In all cases in which, from the course of symptoms, I have reason to believe that the central organs of the nervous system, or their envelops, are in any degree affected with strumous inflammation (tubercular cerebritis, or meningitis) or its consequences, after moderate purging, and perhaps application of leeches to the head, I am in the habit of prescribing the iodide, in doses of from half a grain to three grains, every three or four hours, generally dissolved in some carminative water, and continuing it in doses, varied according to the symptoms, for many days, or even until convalescence is fully established; and I am quite satisfied that, under this treatment, with the occasional addition of blisters to the shaven scalp, I have seen far more prompt and decided effect produced upon the disease than I used to see under the old treatment.

When opportunities have been afforded of commencing the use of the iodide early, it has appeared in several cases to arrest the progress of the disease rapidly, so that the formidable effects of effusion, indicated by squinting and convulsions, have not supervened. In less favourable circumstances, in cases where considerable prostration had succeeded to great febrile action, and in which starting and squinting had become prominent symptoms, I have seen, in not a few instances, the free use of iodide of potassium followed by amendment and complete recovery. In such cases, and in others still further advanced, I have generally given larger doses, even to the extent of four grains, several times a day, to children of from four to eight years of age.

The medicine is very seldom refused by the patient, and I cannot say that I have ever seen it either increase the nausea that so frequently exists in the earlier stages of the disease, or produce any other untoward effect; especially have I never seen it induce salivation, which the drug sometimes seems to cause when given for other ailments.

It seems generally to act upon the kidneys; yet I cannot say that the amount of relief to the head-symptoms bears any very obvious relation to the quantity of urine excreted.¹

Although I have no doubt that the iodide is more especially useful in cases where there exists more or less of the scrofulous diathesis, I have often used it with satisfaction in patients apparently free from all such taint; even in cases

¹ In a paper, "On the Diuretic Action of Iodide of Potassium" (*Arch. of Med.*, No. 3, London, 1858), Dr. Handfield Jones remarks, that "there are certainly remedies which exert very positive curative influence, admitting of no doubt or question, yet which afford no clue in their general mode of action to explain their special effects. Such, it appears to me, is iodide of potassium." Dr. Jones' observations lead him to conclude that, under the use of iodide of potassium, the quantities of water, of phosphoric and sulphuric acids, and of chlorine in the urine, are very much increased; but the knowledge of this effect of the administration does not enable us satisfactorily to explain its *modus operandi*, either in the cure of secondary syphilis or in that of tubercular meningitis.